

REMARKS

Applicants wish to thank Examiner Nguyen for allowing Claims 42-52 and for indicating allowability of Claim 37 and 38 if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

Claim 37 has been rewritten in independent form by including the limitations of original Claim 33 and Claim 34. Thus, Claims 37 and 38 should be allowable.

The present invention as set forth in **amended Claim 33** relates to a method for forming a conic body, comprising:

performing high selectivity anisotropic etching of a substrate or predetermined layer with a mixture gas by using as a micro mask an impurity precipitation defect caused by a first impurity included in the substrate or predetermined layer;

allowing a conic body to be exposed from a surface of the substrate or layer, the conic body being formed with the impurity precipitation defect located at its top; and

adjusting the ratio of the mixture gas during the high selectivity anisotropic etching to thereby adjust the aspect ratio of the conic body.

Even though Hayakawa et al disclose a method for forming a conic body using high selectivity etching at page 8, in the paragraph bridging both columns and in Figure 8, Hayakawa et al fail to disclose or suggest **adjusting the ratio of the mixture gas during the high selectivity anisotropic etching to thereby adjust the aspect ratio of the conic body.**

Hayakawa et al investigated the mechanism of formation of needle residues during highly selective etching of Si substrates. These needles are disclosed to be a “severe problem” (Hayakawa et al, page 5, left column, last paragraph. Thus, Hayakawa et al do not provide any motivation to **adjust an aspect ratio of the conic body**. Hayakawa et al want to

get rid of the needles and therefore proposed a method to suppress them page 8, right column, last paragraph.

However, the claimed process allows direct control of the cone's aspect ratio. The specification states at page 31, line 17 to page 32, line 7:

“When the semiconductor substrate or the semiconductor material is subjected to the anisotropic etching through the micro mask by RIE as described above, a reaction product adheres to the sidewall of the cone formed. During the anisotropic etching, the reaction product adhered to the side wall of the cone becomes the protective film to retain the cone shape, and the cone shape (an aspect ratio of the cone) is controlled depending on an amount of the protective film adhered to the sidewall. The side wall protective film amount can be controlled by changing a mixing ratio of etching gas (e.g., NF₃) and gas for deposition (e.g., HBr gas) among the aforesaid etching mixture gases. Specifically, the cone becomes thinner and sharper and has a higher aspect ratio when the etching gas ratio is increased, while it has a lower aspect ratio when the deposition gas ratio is increased. Therefore, the aspect ratio of the cone can be controlled by adjusting the ratio of the mixture gas used for the anisotropic etching to control an amount of the reaction product and an amount of the reaction product adhered to the cone.”

However, such process step is not disclosed or suggested in Hayakawa et al.

Therefore, the rejection of Claims 33-36, 39-41 as being anticipated by Hayakawa et al is believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of this rejection is respectfully requested.

Applicants respectfully request that the Examiner acknowledge that the references cited in the **Information Disclosure Statement**, filed in the above-identified application on **August 12, 2004**, have been considered. For the Examiner's convenience a copy of Form PTO 1449 as filed on **August 12, 2004**, is attached herewith.

Application No.: 10/618,085

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This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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